

Expected Results and Impact

The **EPIXCHANGE** project aims at developing and validating new strategies to approach specific, and yet unresolved, therapeutic needs in epilepsy: prevention and treatment of pharmaco-resistant patients.

The originality and innovation of this project stands in the exploration of new, highly innovative therapeutic strategies, such as the inoculation in the pathologic brain area of viral vectors or of encapsulated cells.

In the future, these approaches could be used not only against epilepsy but also for other neurological disorders and conditions, including neurodegenerative diseases. The collaborative, technical exchange program proposed by **EPIXCHANGE** will also facilitate further interactions between the groups even beyond the project.

Starting date: 1/12/2011

Project duration: 48 months

Partners involved

P1 UNIFE
Università degli
Studi di Ferrara



P2 ULUND
Lunds Universitet



P3 NSGENE
NsGene A/S



P4 Bioviron
Bioviron sarl



For Further information:

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Grant Agreement number: 285827

Project Duration: 48 months

**Innovative gene therapies for
epilepsy treatment**

EPIXCHANGE PROJECT

university ↔ industry
epiXchange
against epilepsy

FP7-PEOPLE-2011- IAPP Marie Curie Action: "Industry-Academia Partnerships and Pathways"

Key words: Health sciences, Neurosciences, Brain research, Cell biology, Molecular biology



Acknowledgement of support from the EC Grant Agreement n. 285827 (EPIXCHANGE) Marie Curie Action Industry-Academia Partnership and Pathways
Seventh Framework Programme Health



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About EPIXCHANGE

A significant part of the costs of neurological diseases on society is associated with epilepsy. About 30-40% of epileptic patients are refractory to pharmacological treatments, which are mostly symptomatic and often have side effects. In few cases, surgical intervention may be considered. No treatment interfering with or preventing the development of epilepsy is currently available. In this context, **EPIXCHANGE** aims at exploring, providing the basis for clinical application and implementing in the industrial arena new and unconventional strategies for the therapy of partial epilepsy.

To achieve this aim, a **strategic partnership** has been created, including two internationally recognized academic institutions (the Universities of Ferrara and of Lund) and two small and medium-sized enterprises, SMEs (NsGene, BioViron). This partnership will implement a joint research program, which will enable to exploit the complementary competencies and technologies available at each participant site. It will increase the knowledge-sharing and technology transfer, as well as the mutual understanding and penetration of the different cultural settings and skills involved. Thus, both academic and industrial sectors will improve their research and technological development (RTD) capability and competitiveness.

Objectives of the project

- ◇ **To evaluate** ECB devices as a delivery platform for localized secretion of neuropeptides and/or neurotrophic factors to suppress partial complex epilepsies
- ◇ **To explore** the possible seizure-suppressant effects of viral vector
- ◇ **To identify and implement** the methodological and regulatory aspects necessary for the clinical applications of the preclinical findings

EPIXCHANGE Objectives

The overarching aim of the **EPIXCHANGE** project is to explore, provide the bases for clinical application and implement in the industrial arena new, advanced, unconventional strategies for the therapy of partial epilepsy, such as implantation in the pathologic brain area of an encapsulated cell biodelivery system (ECB), injection of viral vectors, transplantation of cells.

The therapeutic approaches proposed are technologically novel and offer clear potential advantages over the existing ones.

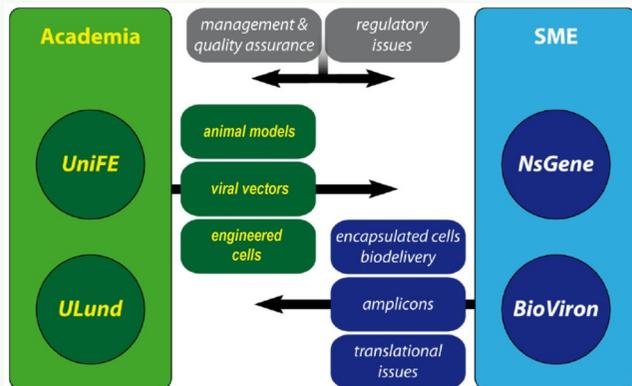
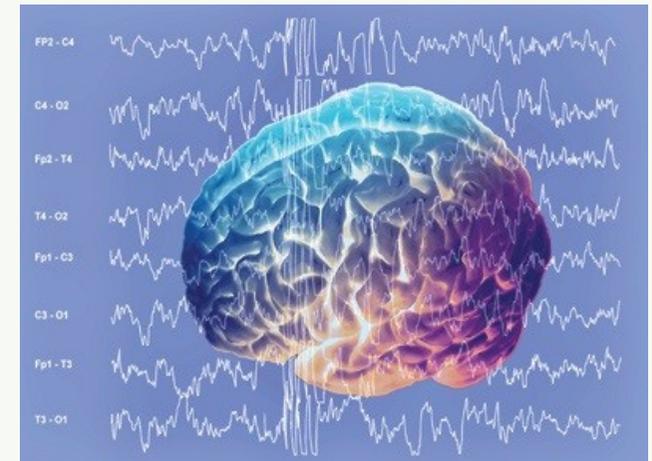


Figure 1: Strategic partnership .



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